

Notice of Allowability

Application No.

09/921,924

Examiner

Thomas E. Shortledge

Applicant(s)

MATSUOKA ET AL.

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Remarks, filed 08/25/2006.
2. ☒ The allowed claim(s) is/are 5,6,11,18,19,21,22 and 26.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

1. This communication is in response to Remarks, filed 08/25/2006.
2. Claims 5, 6, 11, 18, 19, 21, 22 and 26 are pending.

Response to Arguments

3. Applicant's arguments, see Remarks, filed 08/25/2006, with respect to Claims 5, 6, 11, 18, 19, 21, 22 and 26 have been fully considered and are persuasive. The 101 nonstatutory rejection has been withdrawn. The examiner agrees with the applicant's arguments that claims 5 and 11 have "practical application" and that claims 5 and 11 do not include an abstract idea. However, the applicant failed to distinctly recite which limitation gave the claims "practical application". The examiner has reviewed each claim as a whole, and has interpreted the limitation claiming "an anonymity setting processing unit changing a name of the person in the input document having a specificity which is greater than a predetermined threshold," as the limitation that gives the above claims "practical application" in the arts.

Allowable Subject Matter

4. Claims 5, 6, 11, 18, 19, 21, 22, and 26 are allowed.

The following is an examiner's statement of reasons for allowance:

Claims 5 and 18 recites an anonymity setting device comprising: a specificity calculating unit extracting an expression specifying a person from an input document and calculating a specificity to evaluate a degree of intensity at which the expression can specify the person; and an anonymity setting processing unit changing a name of the person in the input document having a specificity which is greater than a predetermined threshold; wherein said specificity calculating unit extracts surrounding expressions of the person's name from said input document, and calculates, for each surrounding expression, a degree of specificity for evaluating a degree of specificity at which the person can be specified with the extracted individual surrounding expressions; and said anonymity setting processing unit sets, when there is a surrounding expression of a degree of specificity higher than a predetermined threshold, anonymity for such surrounding expression and the person's name; and wherein the specificity calculating unit further includes: a syntax analyzing means creating a syntax tree indicative of a modification relationship between clauses based on a syntax analyzing rule from a result of a part-of-speech analysis; a person specifying tree extracting means extracting a tree structure specifying the person as a person modification expression based on a person specifying tree extracting rule for the tree structure obtained by the parsing unit; and a tree structure specificity calculating means calculating a specificity of the person specifying tree thus extracted based on statistical information. Ruch et al. (Medical Document Anonymization with a Semantic Lexicon),

the closest prior art of record, teach locating and removing personally-identifying information in patient records, where anonymization is seen as a particular case of knowledge extraction. The removing of personally-identifying information is based on the surrounding words, where only when a word is found to be able to specify a specific person, is that word changed. However, Ruch et al. do not teach nor fairly suggest a person specifying tree extracting means extracting a tree structure specifying the person as a person modification expression based on a person specifying tree extracting rule for the tree structure obtained by the parsing unit, nor a tree structure specificity calculating means calculating a specificity of the person specifying tree thus extracted on statistical information.

Claims 11 and 26 recites an anonymity setting device comprising: a specificity calculating unit extracting an expression specifying a person from an input document and calculating a specificity to evaluate a degree of intensity at which the expression can specify the person; and an anonymity setting processing unit changing a name of the person in the input document having a specificity which is greater than a predetermined threshold; wherein said specificity calculating unit extracts surrounding expressions of the person's name from said input document, and calculates, for each surrounding expression, a degree of specificity for evaluating a degree of specificity at which the person can be specified with the extracted individual surrounding expressions; and said anonymity setting processing unit sets, when there is a surrounding expression of a degree of specificity higher than a predetermined threshold,

anonymity for such surrounding expression and the person's name; and wherein the anonymity setting processing unit replaces an expression specifying the person extracted from the input document to a low specificity expression having a specificity which is equal to or smaller than a threshold to be used for rewriting with the anonymity expression. Ruch et al., the closest prior art of record, teach locating and removing personally-identifying information in patient records, where anonymization is seen as a particular case of knowledge extraction. The removing of personally-identifying information is based on the surrounding words, where only when a word is found to be able to specify a specific person, is that word changed. However, Ruch et al. do not teach nor fairly suggest the anonymity setting processing unit replaces an expression specifying the person extracted from the input document to a low specificity expression having a specificity which is equal to or small than a threshold to be used for rewriting the anonymity expression.

Claims 19 recite a document anonymity setting method comprising: a specificity calculating step of extracting an expression specifying a person from an input document and calculating a specificity to evaluate a degree of specificity at which the expression specifies a name of the person; and an anonymity setting processing step of rewriting the name of the person with an anonymity expression in said input document which has a specificity higher than a predetermined threshold; wherein said specificity calculating step extracts surrounding expressions of the person's name from said input document, and calculates, for each surrounding expression, a degree of specificity for evaluating a

degree of intensity at which the person can be specified with the extracted individual surrounding expressions; and said anonymity setting processing step sets, when there is a surrounding expressions of a degree of specificity higher than a predetermined threshold, anonymity for said surrounding expression and the person's name; and wherein the specificity calculating step includes: a sentence extracting step of extracting a sentence from the input document; a part-of-speech analyzing step of discriminating the extracted sentence for each part of speech; a person's name extracting step of extracting the person's name based on a name extracting rule from a result of the part-of-speech analysis; and a person's name specificity calculating step of calculating a specificity of the person's name thus extracted based on statistical information; and wherein the specificity calculating step takes a weight average of a specificity obtained by a calculation of an expression which specifies the person extracted from the input document with a specificity registered in a reference specificity database registering specificity data having a set of an expression specifying the person created based on an existing document, a type of the person's name or a modification expression and a specificity, and normalizes the weight average. Ruch et al., the closest prior art of record, teach locating and removing personally-identifying information in patient records, where anonymization is seen as a particular case of knowledge extraction. The removing of personally-identifying information is based on the surrounding words, where only when a word is found to be able to specify a specific person, is that word changed. However, Ruch et al. do not teach nor fairly suggest the specificity calculating step takes a weight average of a specificity obtained by calculation of an expression

which specifies the person extracted from the input document with a specificity registered in a reference specificity database registering specificity data having a set of an expression specifying the person created on an existing document, a type of the person's name or modification expression and a specificity, and normalizes the weight average.

Claim 21 recites a document anonymity setting method comprising: a specificity calculating step of extracting an expression specifying a person from an input document and calculating a specificity to evaluate a degree of specificity at which the expression specifies a name of the person; and an anonymity setting processing step of rewriting the name of the person with an anonymity expression in said input document which has a specificity higher than a predetermined threshold; wherein said specificity calculating step extracts surrounding expressions of the person's name from said input document, and calculates, for each surrounding expression, a degree of specificity for evaluating a degree of intensity at which the person can be specified with the extracted individual surrounding expressions; and said anonymity setting processing step sets, when there is a surrounding expressions of a degree of specificity higher then a predetermined threshold, anonymity for said surrounding expression and the person's name; and further comprising an anonymity setting indicating step of setting and changing a threshold to be used at the anonymity setting processing step. Ruch et al., the closest prior art of record, teach locating and removing personally-identifying information in patient records, where anonymization is seen as a particular case of knowledge

extraction. The removing of personally-identifying information is based on the surrounding words, where only when a word is found to be able to specify a specific person, is that word changed. However, Ruch et al. do not teach nor fairly suggest an anonymity setting indicating step offsetting and changing a threshold to be used at the anonymity setting processing step.

Claim 22 recites a document anonymity setting method comprising: a specificity calculating step of extracting an expression specifying a person from an input document and calculating a specificity to evaluate a degree of specificity at which the expression specifies a name of the person; and an anonymity setting processing step of rewriting the name of the person with an anonymity expression in said input document which has a specificity higher than a predetermined threshold; wherein said specificity calculating step extracts surrounding expressions of the person's name from said input document, and calculates, for each surrounding expression, a degree of specificity for evaluating a degree of intensity at which the person can be specified with the extracted individual surrounding expressions; and said anonymity setting processing step sets, when there is a surrounding expressions of a degree of specificity higher then a predetermined threshold, anonymity for said surrounding expression and the person's name; and wherein the anonymity setting method retains, in a threshold database, a threshold used in an anonymity setting processing for each processing document and sets a last threshold as a default during the anonymity setting processing of a new input document. Ruch et al., the closest prior art of record, teach locating and removing personally-

identifying information in patient records, where anonymization is seen as a particular case of knowledge extraction. The removing of personally-identifying information is based on the surrounding words, where only when a word is found to be able to specify a specific person, is that word changed. However, Ruch et al. do not teach nor fairly suggest the anonymity setting method retains, in a threshold database, a threshold used in an anonymity setting processing for each processing document and sets a last threshold as a default during the anonymity setting processing of a new input document.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas E. Shortledge whose telephone number is (571)272-7612. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TS
11/06/06



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